

WHAT IS CLAIMED IS:

1. A method of manufacture of an extruded synthetic wood structural material which comprises at least a wood fiber content, a plastic resin content, and a coloring agent, comprising the steps of:

(a) placing together finely divided wood fiber and a coloring agent;

(b) feeding said wood fiber and said coloring agent to a heated mixer to thoroughly mix said wood fiber and said coloring agent, and so as to drive water vapor away from said wood fiber;

(c) adding and thoroughly mixing said plastic resin content to said thoroughly mixed wood fiber and coloring agent, while continuing to heat the same;

(d) transferring said thoroughly mixed plastic resin, wood fiber, and coloring agent mixture to an extrusion die and forcing said mixture through said extrusion die; and

(e) cooling and hardening said extruded mixture, and cutting to lengthen the so-formed extruded synthetic wood structural material;

wherein said wood fiber content initially has a moisture content of from 0.5% to 20% by weight thereof;

wherein said extruded synthetic wood structural material is colored by said coloring agent, and has a moisture content of zero up to about 0.1% by weight thereof; and

wherein said extruded synthetic wood structural material comprises from 20% to 60% by weight of wood fiber content, from 20% to 60% by weight of plastic resin content, and from 0.5% to 5.0% by weight of coloring agent.

2. The method of claim 1, wherein said finely divided wood fiber and said coloring agent are coarsely mixed together and stored in location remote from said heated mixer.
3. The method of claim 1, wherein said finely divided wood fiber and said coloring agent are coarsely mixed together just prior to step (b), in a location adjacent said heated mixer.
4. The method of claim 1, wherein said finely divided wood fiber is wood flour.
5. The method of claim 1, wherein said heated mixer is a twin screw mixer having a heated jacket and at least one vent for said water vapor as it is driven off, and wherein said heated jacket is heated to a temperature of from 120°C to 235°C.
6. The method of claim 1, wherein said wood fiber content is chosen from the group consisting of sawdust, finely divided wood chips, ground wood, wood meal, wood flour, finely divided wood flakes, finely divided coconut shells, finely divided peanut shells, palm fiber, bamboo fiber, rice hulls, wheat pulp, finely divided straw, and mixtures and combinations thereof.
7. The method of claim 1, wherein said plastic resin content is chosen from the group consisting of polyethylene, polypropylene, polyvinyl chloride, low-density polyethylene, ethyl-vinyl acetate, and mixtures and combinations thereof.

8. The method of claim 1, wherein said coloring agent is chosen from the group consisting of color pellets, color pigments, and mixtures and combinations thereof.
9. The method of claim 1, wherein step (d) is carried out in part by pumping said thoroughly mixed plastic resin, wood fiber, and coloring agent, through a single screw pump, so as to force said mixture through said extrusion die.
10. The method of claim 9, wherein said single screw pump has a heated jacket so as to keep said mixture in a substantially molten state.
11. The method of claim 1, wherein the formulation of said extruded synthetic wood structural material further comprises at least one additive chosen from the group consisting of a lubricant in the amount of 1% to 10% by weight, a strengthening agent in the amount of 1% to 30% by weight, a fungicide in the amount of 0.1% to 5% by weight, a UV inhibitor in the amount of 0.1% to 5% by weight, and mixtures and combinations thereof; and
wherein said at least one additive is added to the formulation between step (b) and step (c).